

STATE OF CALIFORNIA
Department of Transportation
Iridescent Green Finish Paint, Waterborne
Acrylic Latex Vehicle (Specification PWB-169D)

SCOPE

This specification covers a pre-mixed waterborne paint formulated for use as a finish coat on properly prepared metal surfaces.

This coating is intended for spray application. Limited application can be made by brushing and rolling.

REQUIREMENTS

General:

This specification is intended to specify paint that will meet service requirements for bridge construction and maintenance. All properties listed shall be maintained for a minimum of one year after date of manufacture. If the vendor is making this paint for the first time, the Transportation Laboratory in Sacramento must be consulted.

QUALITY ASSURANCE

All paint intended for use by the California Department of Transportation (Department) must be sampled, tested and approved by the Transportation Laboratory **before** shipment.

The manufacturer shall take a representative one-quart sample of each batch of paint and ship the samples to the Transportation Laboratory for approval, unless other arrangements have been made. Raw materials and copies of batch records used in the manufacture of the paint shall be submitted if requested.

Transportation Laboratory, Chemical Testing Branch, 5900 Folsom Blvd., Sacramento, CA 95819, attn.: Lisa Dobeck, Fax (916) 227-7168.

A batch shall be that amount of paint that was manufactured and packaged in a single operation. The paint container shall be labeled with, but not limited to, the State Specification number, date of manufacture and batch number. The Department also reserves the right to retest any batch after delivery. Results from such retesting shall prevail over all other tests and will be the basis of rejection. Material not meeting the specification shall be removed and replaced by the supplier at their expense, including all costs for handling, retesting and shipping.

All tests shall be conducted in accordance with the appropriate ASTM test methods referenced under the "Characteristics of Mixed Paint" section of this document and methods used by the Transportation Laboratory.

Patents:

Supersedes PWB 169C, PWB 169B and PWB 169A.

The contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and agrees to indemnify and save harmless the State of California, and its duly authorize representatives from all suits at law or action of every nature for, or on account of, the use of any patented materials, equipment, devices, or processes.

Composition

The paint shall be mixed in the following proportions:

Vehicle

| <u>Components</u> | | <u>(lbs./100 gallons)</u> | <u>Weight Percent</u> |
|--------------------------|-----|----------------------------------|------------------------------|
| Acrylic Latex | (1) | 750.0 | 77.76 |
| Preservative | (2) | 0.9 | 0.09 |
| Defoamer | (3) | 3.0 | 0.31 |
| Dispersant | (4) | 1.75 | 0.18 |
| Coalescent solvent | (5) | 49.0 | 5.08 |
| Thickener | (6) | 2.0 | 0.21 |
| Co-solvent | (7) | 20.0 | 2.07 |
| Ammonium Hydroxide (28%) | (8) | 2.5 | 0.26 |

Under low shear slowly add:

Pigments (9)

| | | | |
|----------------------------|------|-------|-------|
| Mearlin Sparkle | (9a) | 4.0 | 0.41 |
| Mearlin Super Blue | (9b) | 14.3 | 1.48 |
| Aqua-Chem 896 Phthalogreen | (9c) | 12.16 | 1.24 |
| Mearlin Bright Green | (9d) | 104.9 | 10.88 |

Mix thoroughly being careful not to incorporate air into paint.

Avoid using high shear; this will cause fragmentation of the pigment resulting in unacceptable appearance of the paint.

Characteristics of Mixed Paint

| | |
|--|-------------|
| VOC, grams per liter, ASTM Designation: D 6886 | 172 |
| Density, grams per milliliter, ASTM Designation: D1475 | 1.09 - 1.13 |
| Nonvolatile Content, percent, ASTM Designation: D2369 | 45.5 – 48.5 |
| Pigment by weight of paint, percent, ASTM Designation: D3723 | 12.5 – 13.5 |

| | |
|---|----------------------|
| Consistency, Stormer Viscometer, ASTM Designation: D562, g Equivalent KU | 150 – 170 77 - 80 |
| Viscosity, Poise, ASTM Designation: D2196, Method A 50 rpm, #3 spindle | 15 - 18 |
| Fineness of Grind, Hegman, ASTM Designation: D1210 | 6 minimum |
| PH | 8-10 |
| Drying Time at 25°C, 50% relative humidity, 6 mil-wet film, ASTM Designation: D 1640 | |
| set to touch, hours | 1 max. |
| dry through, hours | 2 max. |

Color to match color chip PWB 169D on file at the Transportation Laboratory.

- (1) Maincote® HG-54D (Rohm and Haas)**
- (2) Proxel® BD 20 (Avecia Inc.)**
- (3) Foamaster® 111 (Henkel)**
- (4) Tamol 165A (Rohm and Haas)**
- (5) 2,2,4-Trimethylpentanediol-1, 3-monoisobutyrate (Texanol)**
- (6) Acrysol® RM-12W (Rohm and Haas)**
- (7) 2-(2methoxyethoxy) ethanol (methyl carbitol)**
- (8) Ammonium Hydroxide (28%)**
- (9a) Exterior® Mearlin Sparkle 139P (Engelhard Corp.)**
- (9b) Exterior® Mearlin Super Blue 639Z (Engelhard Corp.)**
- (9c) Aqua-Chem® 896-5510 Phthalogreen (Degussa Corporation)**
- (9d) Exterior® Mearlin Bright Green 8289X (Engelhard Corp.)**